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E/008/61/014/006/003/003
B122/B227

Buckling measurement by...

assumptions hitherto made.  However, if the exchanged "basic" core zone
is not too extensive, interactions between the reflector and the zone to
be measured may be neglected, or instead of the reflector, a properly
chosen reflector saving may be reckoned with.  Under these assumptions
and after simplifications, the author recommends the following formula
for the radial component of buckling:  $\delta \mu_r = \frac{1}{\alpha}\Delta\mu_r$, where $\alpha$ is the coeffi-
cient found in the one-group equation.  Field of application of the
"replacement" method:  The method has been found successful for heavy
water-moderated systems.  For graphite moderator, the exponential exper-
iment is much less dangerous.  The author does not know of its applica-
tion to light-water systems.  In the case of different moderators or if
gas channels of various dimensions are in the fuel elements, the differ-
ence of diffusion coefficients must not be neglected.  In such a case,
the above formula is inapplicable, and even trial-and-error methods become
intricate.  There are 2 figures and 5 references:  2 Soviet-bloc.  The
reference to the English-language publication reads as follows:
S. Glasstone and M. C. Edlund:  Fundamentals of the theory of nuclear
reactors, Manuscript, Budapest, 1958.  13, 14, 2.  Abstracter's note:

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H/008/61/014/006/003/003
B122/B227

Buckling measurement by...

Probably a translation into Hungarian]

ASSOCIATION: Központi Fizikai Kutató Intézet, Budapest (Central Physical
Research Institute, Budapest)

Legend to Fig. 1:  Alapzóna = basic zone; sík = plane; mérendö zóna = zone
to be measured; Homlokreflektor = face reflector.



Fig. 1
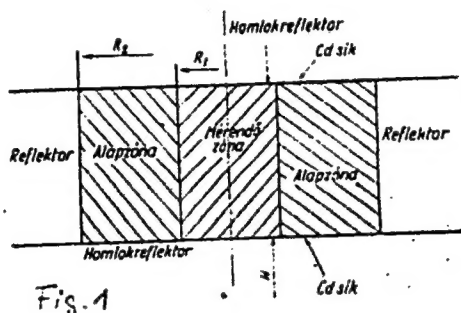
Card 4/4

VIGASSY, Jozsef

Radiation conditions of the VVRSz reactor.  Energia es atom 15 no.10/11:
506-512 O-N '62.

1. Kozponti Fizikai Kutato Intezet Reaktorfizikai es Technikai Labora-
toriumanak tudomanyos munkatarsa.

VIGASSY, Jozsef, okleveles gepeszmernok

Scrutinizing the processes occurring in nuclear reactors.  Ipari
energia 1 no.5-6:139-141 N-D '60.

SZEPHALMI, Geza; TURI, Laszlo; VIGASSY, Jozsef

Neutron temperature measurements in the ZR-2 system. Energia
es atom 17 no.3:146-152 Mr '64.

1. Central Research Institute of Physics, Hungarian Academy of
Sciences, Budapest (for Turi, Vigassy). 2. Institute of Biophysics,
Pecs Medical University, Pecs (for Szephalmi).

VIGASSY, Jozsef, okleveles gepeszmernok

Measuring bucklings by the method of changing fuel. Energia es atom 14 no.6:283-287 Je '61.

1. Kozponti Fizikai Kutato Intezet.

ACCESSION NR: AP4023745

H/0008/64/000/003/0146/0152

AUTHOR: Szephalmi, Geza; Turi, Laszlo; Vigassy, Tozsef

TITLE: Neutron temperature measurements in the ZR-2 system

SOURCE: Energia es atomtechnika, no. 3, 1964, 146-152

TOPIC TAGS: neutron temperature measurement, ZR-2 system, thermal spectrum measurement, EK-10 fuel element, quadrangular lattice, VVR-S reactor, burnout, Uranium-water lattice, lattice moderator

ABSTRACT: The chief characteristics of the neutron spectrum of reactors and the chief methods of spectrum measurement are described. Authors describe their own measurement procedures, give neutron temperature measurements made with the ZR-2 zero reactor of the Central Research Institute and compare their results with similar measurements. So far as they know, no such measurements have hitherto been made in triangular-geometric aqueous lattices built of EK-10 fuel elements, but several have been made in various VVR-S type reactors, the core of which is a quadrangular lattice having 17.5 mm lattice divisions and built of EK-10 fuel elements. Since the $\frac{\Sigma_a}{N_H}$ parameter basically governs the formation of neutron

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ACCESSION NR: AP4023745

spectra and the influence of the lattice geometry is slight, they compared their own measurements in a 19-mm division triangular lattice (corresponding on the basis of that parameter to the lattice of VVR-S reactors). The values show considerable divergences, probably because of differences in measuring methods, since WR-S type reactors with approximately the same burnout and spectrum are involved. In heterogeneous reactors, the thermal neutron spectrum can change greatly within so-called "unit cells". Mostovoy (Atomnaya Energiya, 13/6, 1962) made measurements relating to this in natural uranium-water lattices, on the basis of which it could be expected that this effect is also considerable in lattices formed of EK-10 fuel elements. "We thank all those who have made the publication of this article possible for their cordial collaboration, especially our scientific associates Barta Tamas, Frankl Laszlo and Konczos Geza, who were of assistance to us in the measurements." Orig. art. has: 1 figure, 2 tables and 29 equations.

ASSOCIATION: MTA Korponti Fizikai Kutatointezet, Budapest (Central Physical Research Institute, Hungarian Academy of Sciences).

SUBMITTED: 00                DATE ACQ: 15Apr64            ENCL: 00

SUB CODE: NS                 NO REF SOV: 001              OTHER: 016

Card 2/2

VERTES, Peter; M. KOVACS, Laszlo; SZECHO, Laszlo; VIGASSY, Jozsef

Testing abosorption and fission conditions of heterogeneous
uranium-water systems in the ep'thermal neutron energy
range.  Koz fiz kozl MTA 12 no.4:263-285  '64.

1. Central Research Institute of Physics, Hungarian Academy
of Sciences, Budapest.

VIGASSY, Jozsef

Some investigations in conjunction with the gird distortion ef-
fects of the VVR-S reactor zone on the reactivity of the system.
Koz.fiz kozl MTA 10 no.3:171-188 '62.

H/008/62/000/010/002/003
D286/D308

AUTHOR:      Vigassy, József, Dipl. Mechanical Engineer

TITLE:      Radiation conditions in the VVRS reactor

PERIODICAL:      Energia és Atomtechnika, no. 10-11, 1962, 506-512

TEXT:      The article is based on a lecture given by the author at the Fizikai Társulat (Physical Society, Budapest) on April 26, 1962. After tabulating the radiations encountered, neutron, $\gamma$ and partly $\beta$ radiations are considered. The origin of radiations is discussed, and the reactions producing neutrons, and different $\gamma$ rays in the reactor are tabulated. The spectra of the $\gamma$ radiation resulting from the fission of U235, and from that of Al are shown. Hard $\gamma$ radiations of the fission products are tabulated. The spectrum conditions of the $\gamma$ radiations in the reactor are discussed. Some particulars of the reactors examined are given (BSR, VVRS, VVRM). The measured $\gamma$ spectra of reactors IRT, BSR and VVRS are given. The IRT spectrum is obtained from Groshev's report. The radiation conditions after stopping the reactor, the

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Radiation conditions ...

H/008/62/000/010/002/003
D286/D308

distribution of the $\gamma$ radiations within the zone are also mentioned.
Finally the neutron flux in the VVRS reactor is considered with the
aid of a graph and calculations, both obtained from Nikolayev's re-
port presented in Bucarest. The author acknowledges the help of
Zoltan Gyimesi, Scientific Associate. There are 10 figures and 5
tables.

ASSOCIATION:   Központi Fizikai Kutató Intézet Reaktorfiz. és
Techn. Laboratórium (Central Physical Research
Institute, Reactor Physical and Techn. Laboratory)

Card 2/2

VIGDERGAUZ, D. A.

36413  Znacheniye vnutrikozhnoy proby dlya ranney diagnostiki dizenterii u detey.
Voprosy pediatrii I okhrany materinstva I petstvo, 1949, Vyp. 5, S. 28-33, Bibliogr:
7 Nazv

SO:  Letopis' Zhurnal'nykh Statey, No. 4, 1949

AISINA, V.; VIGDERGAUZ, I.; GLICHENKO, V.

Miners and lodging houses. Sov.shakht. 10 no.5:34-35 My '61.
(MIRA 14:9)

1. Vospitatel' obshchezhitiya shakht no.1-2, g. Makeyevka
Stalinskoy oblasti (for Aisina).
(Coal miners)

The Palace of Culture after inspection.  Sov.shakht. 10
no.1?:36 D '61.                              (MIRA 14:12)
(Donets Basin--Workingmen's clubs)

BRYKIN, L., mashinist pod"yema; DEMIN, B., krepil'shchik; PERSHIN, V ,
slesar'; YAS'KO, Ya., gornyy master; VIGDERGAUZ, I.; KRYLOVSKAYA, L

New living quarters, old mistakes. Sov.shakht. 10  no.4:34-35
Ap '61.                                              (MIRA 14:9)

1. Redaktor shakhtnoy gazety "Slava Rodine" (for Vigdergauz).
2. Korrespondent zhurnala "Sovetskiy shakhter" (for Krylovskaya).
                        (Housing)

KLIMOVITSKIY, E.D., inzh.; VIGDERGAUZ, M.I., inzh.; MALOVA, R.M., inzh.

Heat control instrument panels made of glass-reinforced plastic.
Sudostroenie 29 no.3:52 Mr '63.                    (MIRA 16:4)
                 (Ships—Equipment and supplies)
                 (Glass reinforced plastics)

VIGDERGAUZ, M.S.

Fourth symposium on gas chromatography in the German Democratic
Republic.  Khim.i tekh.topl.i masel  8  no.11:65-67  N  '63.
(MIRA 16:12)

VIGDERGAUZ, M.S.

Analysis of complex organic mixtures by the method of gas
chromatography. Usp.khim. 31 no.1:73-100 Ja '62. (MIRA 15:3)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov Novokuybyshevskiy filial.
(Gas chromatography) (Organic compounds)

VIGDERGAUZ, M.S.

Analysis of complex organic compounds by the method of gas chromatography.
Analele chimie 17 no.3:65-97 Jl-S '62.

S/204/62/002/006/002/012
E075/E192

AUTHORS:     Vigdergauz, M.S., and Gol'bert, K.A. (deceased)

TITLE:       Rapid chromatographic analysis of hydrocarbon gases

PERIODICAL:  Neftekhimiya, v.2, no.6, 1962, 825-830

TEXT:         Reverse and semi-reverse elution were considered as a
means of separating rapidly complex mixtures by gas-chromatography.
The time of separation  t  with the use of reverse elution method
is given as:

$$ t = \left( V_{R(m)} + \frac{\omega_{v)}(m)}{2} \right)\left( \frac{1}{\bar{V}_\alpha} + \frac{1}{\bar{\bar{V}}_\alpha} \right) + \frac{\omega'_{v)}(n)}{2\,V_\alpha} \qquad (2) $$

where:  $V_{R(m)}$  is the retention volume of component  m;  $\bar{V}_\alpha$  and  $\bar{\bar{V}}_\alpha$
are space velocities of carrier liquid during forward and reverse
flows respectively;  $\omega_{v)}(m)$      is the peak width for component  m;
m and n are components to be separated.  The semi-reverse flow
method proposed by Svoboda can give rapid separations if it is
desired to determine only the components which are quickly eluted.

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The optimum time $\tau$ and the position along the column length $L$, for the introduction of carrier gas are determined from the equations:

$$L_1/L = \overline{\overline{V}}_\alpha / (\overline{V}_\alpha + \overline{\overline{V}}_\alpha), \tag{15}$$

$$\tau = \left( V_{R(m+1)} / \overline{V}_\alpha \right) (L_1/L). \tag{16}$$

The semi-reverse elution was tested by separating a mixture of $C_4$ and $C_5$ hydrocarbons using Inza brick coated with 30 wt.% dibutyl-phthalate, the column length was 1.93 m, and $H_2$ was used as carrier gas. In this case $L_1$ was 0.83 m and $\tau = 45$ sec. The total time of the analysis was cut from 4 min 05 sec to 2 min. The method was also applied to the rapid analysis of a pyrolysis gas for the $C_1 - C_3$ hydrocarbon content. The column consisted of two sections, one filled with Inza brick coated with 30% vaseline oil, and the other silica gel coated with 1.5% vaseline oil. The total analysis time for this system was 7 min at 40 °C. The use of the column composed of two different sections permitted extraction of the components which would be eluted simultaneously in a single

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Rapid chromatographic analysis of ... S/204/62/002/006/002/012
E073/E192

column. There are 4 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskikh
spirtov i organicheskikh produktov
Novokuybyshevskiy filial
(Scientific Research Institute of Synthetic Alcohols
and Organic Products, Novokuybyshev Branch)

SUBMITTED: July 17, 1962

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S/204/62/002/006/006/012
E075/E192

AUTHORS:     Vigdergauz, M.S., and Gol'bert, K.A. (deceased)

TITLE:       Choice of optimum conditions for the chromatographic separation of complex organic mixtures on multiple columns

PERIODICAL:  Neftekhimiya, v.2, no.6, 1962, 852-860

TEXT:    The work was carried out because of insufficient information in literature on the choice of sorbents and the optimization of chromatographic separation processes.    The retention volume $V_R$ of a component on a multiple column is given by:

$$V_R = V_{R_1} \frac{P_{01}}{P_0} + V_{R_2} \qquad (5)$$

where: $V_{R_{1,2}}$ - retention volumes of the component in sections 1 and 2 of the column; $P_0$ - pressure at the exit from the column; $P_{01}$ - pressure at the boundary between column sections. For small pressure gradients the specific retention volume $V_g$ is given by:

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Choice of optimum conditions for ...    S/204/62/002/006/006/012
E075/E192

$$V_g = \frac{g_1}{g} V_{g_1} + \frac{g_2}{g} V_{g_2} \qquad (8)$$

where $g_1$ and $g_2$ - weights of the liquid in the first and second
sections, respectively. A graphical method of determining the
optimum relations between the quantities of individual sorbents is
based on Eq.(8). The optimum separation on multiple columns after
changing the sequence of the sections can be achieved only by
adjusting the column lengths. The half-width of peaks $\mu_{0.5}$ eluted

into the atmosphere is given by:

$$\mu^2_{0.5} = \mu^2_{0.5(1)} + \mu^2_{0.5(2)} \qquad (25)$$

the peak width being independent of the order of the sections.
The number of theoretical plates $n$ of a multiple column is

$$n = n_1 + n_2 . \qquad (29)$$

The optimum ratio between the quantities of sorbents in the
sections corresponds to the elution of components having equal

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Choice of optimum conditions for ... S/204/62/002/006/006/012
E075/E192

separation criteria, if the diffusional characteristics of both sorbents are similar. The maximum allowable width of fractions entering the second separation stage can be obtained from:

$$V_{R(1)}^{P_2} - V_{R(1)}^{P_1} \quad V_{R(2)}^{O_1} - V_{R(2)}^{P_2} - \left( \omega_{0.5}^{O_1} + \omega_{0.5}^{P_2} \right) \tag{30}$$

where: $V_R^{P}$ and $V_R^{O}$ - retention volumes of paraffins and olefins respectively; $\omega_{0.5}^{P}$ and $\omega_{0.5}^{O}$ - the corresponding half widths of their peaks. The most efficient scheme to enrich the micro-components is to attain a greater ratio of the concentration of the micro-component (impurity) $C_2$ to the concentration of the main component $C_1$, in relation to the initial concentration of the impurity in the sample. There is 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov Novokuybyshevskiy filial (Scientific Research Institute of Synthetic Alcohols and Organic Products, Novokuybyshev Branch)

Card 3/3

SUBMITTED: July 9, 1962

VIGDERGAUZ, M.S.; GOL'BERT, K.A.

Selecting conditions for the separation of complex mixtures of
hydrocarbons by gas chromatography. Neftekhimiia 1 no.5:706-
715 S-O '61.
(MIRA 15:2)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
(Hydrocarbons)(Gas chromatography)

VIGDERGAUZ, M.S.; GOL'BERT, K.A.; GORSHUNOV, O.L.

Analysis of light hydrocarbons by means of molecular
sieves.  Khim. i tekh.topl.i masel 6 no.7:62-63 Jl '61.
(MIRA 14:6)

1.  Novokuybyshevskiy filial NIISS.
(Hydrocarbons)

VIGDERGAUZ, M.S.; GOL'BERT, K.L.

    Analysis of light hydrocarbon gases by gas-liquid chromatography.
Khim. i tekh. topl. i masel 6 no.11:67-69 N '61.    (MIRA14:12)

    1. Novokuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskogo spirta.
          (Gas chromatography)       (Hydrocarbons--Analysis)

S/032/62/028/002/001/037
B101/B110

AUTHORS: Vigdergauz, M. S., Gol'bert, K. A., Savina, I. M., Afanas'yev, M. I., Zimin, R. A., and Bakhareva, N. I.

TITLE: Chromatographic analysis of microimpurities consisting of acetylene and diene compounds in complex hydrocarbon mixtures

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 149 - 150

TEXT: A report is given on a method of chromatographic determination of acetylene, propane diene, methyl acetylene, divinyl, and ethyl acetylene for the purpose of controlling the purification process of pyrogas or the propane-propylene fraction. The analysis was conducted with an experimental model of the XTП-2 (KhTP-2) chromatograph which was provided with a detector for heat of combustion. Air served as carrier gas. Among the known sorbents, none was found which permitted the determination of the peaks of the dienes and alkynes to be ascertained. A system consisting of two 3 m long columns, diameter 4 mm, was, therefore, chosen. The first column was filled with Inza brick powder (0.25 - 0.50 mm) soaked with 25% diisobutyl phthalate. This column permitted the separation of hydrogen

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Chromatographic analysis of...

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B101/B110

+ methane; ethane + ethylene; acetylene, propane, propylene, isobutane, propadiene, n-butane, isobutene + 1-butene + methyl acetylene; 2-butene, divinyl + ethyl acetylene. The second column was filled with brick powder soaked with 30% Sulfolane. It permitted the separation of methyl acetylene, divinyl, and ethyl acetylene. Operation is conducted first with column 1, and after passage of the propadiene peak, the columns are connected in series until the butane peak has passed. After this, the following substances are eluted from column 1 directly into the detector: 2-butene, divinyl, and ethyl acetylene. Subsequently, column 2 is reconnected, and separate elution of isobutene + 1-butene, and methyl acetylene takes place. To prevent burning through of the detector, the circuit must be switched off during elution of $H_2$, $C_2H_6$, $C_2H_4$, and $C_3H_6$.

When determining the content of divinyl and ethyl acetylene, the columns are connected in series after the peak methyl acetylene + isobutene + 1-butene. The accuracy of the analysis is $10^{-3}$%. The mean deviation with pyrogas is: 2% for acetylene; 6% for methyl acetylene; 13% for propadiene; 3% for divinyl; with the ethane-ethylene fraction: 3% for acetylene; 23% for propadiene. The apparatus was calibrated by means of synthetic mixtures. There are 1 figure and 1 table.
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Chromatographic analysis of...    S/032/62/028/002/001/037
                                   B101/B110

ASSOCIATION: Novokuybyshevskiy filial instituta sinteticheskikh spirtov
             i organicheskikh produktov (Novokuybyshevsk Branch of the
             Institute of Synthetic Alcohols and Organic Products)

Card 3/3

VIGDERGAUZ, M.S., GOL'BERT, K.A. [deceased]

Programmed temperature gas chromatography (survey). Zav.
lab. 29 no.9:1029-1035 '63.                              (MIRA 17:1)

VAG MAGAUK, M.S.; ARUT YEV, N.".

Gas chromatography on sectional columns. Neftekhimiia ( no.1:
119-127 Ja-F'64                                      (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov, Novokuybyshevskiy filial.

VI.DERGAUZ, M.S.; ANDREYEV, L.V.

Method for the racid chromatographic analysis of hydrocarbons
and their derivatives. Khim. i tekh. topl. i masel 9 no.4:64-66
Ap '64.                                             (MIRA 17:8)

1. Novokuybyshevskiy filial Nauchno-issledovatol'skogo instituta
sinteticheskikh spirtov i organicheskikh produktov.

ANDREYEV, L.V.; UTKINA, T.A.; VIGDERGAUZ, M.S.

Calculation of correction factors for peak areas in gas
chromatography. Zhur.fiz.khim. 39 no.10:2425-2429 O '65.
(MIRA 18:12)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov. Submitted June 19, 1964.

ANDREYEV, L.V.; AFANAS'YEV, M.I.; CHABROVA, O.G.; VIGDERGAUZ, M.S.

Quantitative interpretation of gas chromatograms. Usp. khim.
34 no.5:920-948  My '65.                            (MIRA 18:7)

1. Novokuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskikh spirtcv i organicheskikh produktov.

CHABROVA, O.G.; AFANAS'YEV, M.I.; VIGDERGAUZ, M.S.

Analysis of heavy pyrolytic resin from petroleum hydrocarbons
by gas chromatography. Uzb.khim.zhur. 9 no.1:13-17  '65.

(MIRA 18:6)

1. Novokuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskikh spirtov i organicheskikh produktov i Institut
khimii AN Uzbekskoy SSR.

VIGDERGAUZ, M.S.; CHABROVA, O.G.

Analysis of impurities in α-methylstyrene by gas chromatography. Zhur.
prikl. khim. 38 no.7:1549-1556 Jl '65.
(MIRA 18:7)

1. Novokuybyshevskiy filial nauchno-issledovatel'skogo instituta sinteti-
cheskikh spirtov i organicheskikh produktov.

VIGDERGAUZ, M.S.; CHABROVA, O.G.

Chromatographic determination of the aromatic isomers in the
production products of p-xylene. Neftekhimiia 5 no.1:160-165
Ja-F '65.                                            (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.

VIGDERGAUZ, M.S.; GOL'BERT, K.A. [deceased]; AFANAS'YEV, M.I.

New stationary phases for gas chromatography.  Khim. i tekh. topl.
i masel 9 no.12:61-63  D '64.                    (MIRA 18:2)

1. Kuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskikh spirtov i organicheskikh produktov.

VIGDERGAUZ, M.S.; ANDREYEV, L.V.

Gas-chromatography on columns of small diameter. Neftekhimia 4
no.3:507-509  My-Je '64.                              (MIRA 18:2)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov, Novokuybyshevskiy filial.

VIGDERGAUZ, M.S.; AFANAS'YEV, M.I.

Determination of microimpurities of propadiene and methylacetylene in a purified propane-propylene fraction by gas chromatography. Zhur. anal.khim. 19 no.9:1122-1127 '64.                    (MIRA 17:10)

1. Novokuybyshevsk Branch of Scientific-Research Institute of Synthetic Alcohols and Organic Products.

VIGDERGAUZ, M.S.; GOL'BERT, K.A. [deceased]

Selecting the optimal conditions for the chromatographic separation
of complex organic mixtures in composite towers. Neftekhimiia 2 no.
6:852-860 N-D '62.                                                    (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.

VIGDERGAUZ, M.S.; GOL'BERT, K... [deceased]

Nomenclature in gas chromatography. Neftekhimiia 2 no.6:940-951
N-D '62.
(MIRA 17:10)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.

VIGDERGAUZ, M.S.; AFANAS'YEV, M.D.

> Chromatographic Separations of Substances in columns operating with
> peak load sample. Neftekhimiia 3 no.6:911-915  N-D  '63.(MIRA 17:3)
>
> 1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
> organicheskikh produktov, Novokuybyshevskiy filial.

VIGDERGAUZ, M.S.; AFANAS'YEV, M.I.

Chromatographic analysis of $C_9 - C_{12}$ hydrocarbons of pyrolysis
resin.  Khim. i tekh. topl. i masel 8 no.12:28-35  D '63.
(MIRA 17:1)

1. Novokuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskikh spirtov i organicheskikh produktov.

VIGDERGAUZ, M.S.; AFANAS'YEV, M.I.; GOL'BERT, K.A. [deceased]

Analysis of microimpurities by gas chromatography. Usp. khim.
32 no.6:754-771 Je '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
(Chemistry, Analytical)
(Gas chromatography)

VIGDERGAUZ, M.S.

On the method of designing tube furnaces for petroleum refineries. Khim. i tekh. topl. i masel 8 no.10:38-42
O '63.                                                        (MIRA 16:11)

VIGDERGAUZ, M.S.

Gas chromatography. Khim. i tekh. topl. i masel 8 no.7:
70-71 Jl '63.                                    (MIRA 16:7)

(Gas chromatography)

VIGDERGAUZ, M.S.; AFANAS'YEV, M.I.

Analysis of isometric octenes by gas chromatography. Neftechimiia
3 no.3:425-429 My-Je '63.                    (MIRA 16:9)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
                (Octene) (Gas chromatography)

VIGDERGAUZ, M.S.

Elementary microanalysis with the help of gas chromatography.
Priroda   51 no.12:90-91 D '62.                                    (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov, Novokuybyshevsk.
          (Gas chromatography)   (Microchemistry)

VIGDERGAUZ, M.S.; GOL'BERT, K.A.

Analysis of pyrolysis gas by gas chromatography.   Trudy Kom.anal.khim.
13:257-263 '63.                                    (MIRA 16:5)

1.  Nauchno-issledovatel'skiy institut sintetichoskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
                        (Gas chromatography)

VIGDERGANZ, M.S.

BEREZKIN, V.O., POLAK, L.S., VIGDERGANZ, M.S., GOL'BERT, K.A.

Determination of micro-admixtures in olefins by gas chromatography.

Report presented at the 12th Conference on high molecular-weight compounds, devoted to monomers, Baku, 3-7 April 62

VIGDERGAUZ, M.S.; GOL'BERT, K.A.; ZIMIN, R.A.; GORSHUNOV, O.L.

Gas chromatographic analysis of the products of isobutane
oxidation. Neftekhimiia 2 no.3:410-414 My-Je '62.

(MIRA 15:8)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
(Propane) (Gas chromatography)

VIGDERGAUZ, M.S.; GOL'BERT, K.A.; AFANAS'YEV, M.I.; MASHUKOVA, G.A.; ZIMIN, R.A.

Analysis of liquid products of pyrolysis and cracking by gas chromatography. Neftekhimiia  2  no.3:405-409  My-Je  '62.
(MIRA 15:8)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov, Novokuybyshevskiy filial.
(Petroleum products)  (Gas chromatography)

VIGDERGAUZ, M.S.; GOL'BERT, K.A.; AFANAS'YEV, M.I.; MASHUKOVA, G.A.

Analysis of straight-run gasoline by gas chromatography.
Neftekhimia 2 no.1:3-8 Ja-F '62.                    (MIRA 15:5)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i
organicheskikh produktov, Novokuybyshevskiy filial.
         (Gasoline)    (Gas chromatography)

110-58-5-23/25

AUTHORS: Afanas'yev, V.V., Uspenskiy, Yu.M., Vigdergauz, R.V., Zil'bershteyn,
B.A., Engineers; Lur'ye, V.M., Candidate of Technical Sciences

TITLE: Concerning the Article "The Principles of Construction of a New Series
of Current-transformers for Voltages up to 10 kV" (Po povodu stat'i "O
printsipakh postroyeniya novykh seriy transformatorov toka na napryazheniye
do 10 kv") (and Authors' Reply)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Vol 29, Nr 5, pp 71-77 (USSR).

ABSTRACT: This is a discussion by two separate contributors on an article by
Engineer B.A. Zil'bershteyn (Gosplan RSFSR) and Candidate of Technical
Sciences V.M. Lur'ye (NII EP), published in Vestnik Elektropromyshlennosti,
1956, Nr 10. The authors' reply is also given.
Contribution by Afanas'yev, Engineer
This contributor considers that the author has made a serious error in not
recognizing that the one-second thermal stability that he quotes is based
on a guaranteed current that is limited by short-circuit stress considera-
tions. Accordingly, his Figure 2 is misconceived. His considerations
should have been based on a current below the limiting value and of longer
duration.

Contribution by Uspenskiy, Yu.M., Engineer and Vigdergauz, R.V., Engineer

Card 1/3

Concerning the Article "The Principles of Construction of a New Series of Current-transformers for Voltages up to 10 kV"

110-58-5-23/25

These authors welcome certain features of the article, particularly those in which new constructions are described. However, they consider that the authors have formulated the question of class of accuracy and load incorrectly. They consider that the authors' fears about an unsuitable current transformer causing damage to measuring instruments during short-circuit conditions are less important than they think. They consider that the authors are not providing sufficiently high overload capacity and do not agree that different current transformers are needed for measurement and protection. The article is also thought to present the question of current-transformer stability during short-circuit incorrectly and to confuse the matter of low- and high-voltage current transformers.

Authors' Reply

The reply is spirited. The authors show that in his own book, Afanas'yev supported their method, which he is now criticising. They hold to their views. They consider that since the article itself was directed against the excessive demands that designers sometimes make on current-transformers, it is not surprising

Card 2/3

110-58-5-23/29

Concerning the Article "The Principles of Construction of a New
Series of Current-transformers for Voltages up to 10 kV"

that the article should have been attacked by two members of
a large design organisation.  The authors defend their
position firmly on all the points under discussion.

ASSOCIATION:   Zavod "Elektroapparat"  ,   Lengiden,  Gosplan RSFSR,
               NII EP

Card 3/3

AFANAS'YEV, V.V., inzh.; USPENSKIY, Yu.M., inzh.; VIGDERGAUZ, R.V., inzh.

Comments on the article "Principles for building new series of
current transformers of a voltage up to 10 kv." Vest. elektroprom.
29 no. 5:71-74 My '58.                                    (MIRA 11:7)

1. Zavod "Elektroapparat" (for Afanas'yev). 2. Lengidep (for
Uspenskiy, Vigdergauz).
                              (Electric transformers)

120. The properties of talc during heating. — A. I. Avgustinik and V. S. Vidavskaya (Ogneupory, 13, 218, 1948). The dehydration of talc takes place in three stages 120°–200°, 350°–500°, and 1,080° C. Of the total amount (4.8%) of non-hygroscopic water in the talc, the portion of chemically combined water evolved in the third period is 5.1%. This water is present in the form of hydroxyl with the composition (OH)$_2$Mg$_3$Si$_4$O$_{12}$. The remaining 0.4% of the water is the form of the molecule H$_2$O and is supposedly distributed partly within the structure; it is evolved successively in the first two periods of dehydration. On heating, talc does not decompose into the free oxides, but at 600° C., simultaneously with the commencement of the principal stage of dehydration, the re-grouping of the ions of the internal framework of the talc begins; this takes place gradually, and the silica becomes partly separated and highly soluble. Another part of the silica remains combined with the magnesium oxide in the form of metasilicate. This reaction is most marked at 750°–850° C. It follows that, whatever is the temperature at which dehydration of the talc becomes complete, much higher temperatures are needed to obtain the highest solubility of the silica and magnesia; the bonds between the magnesium ions and the silica tetrahedrons are weak and the previously existing bonds between the magnesium and hydroxyl ions in the talc lattice have been broken. As a part of the chemically combined water still remains in the lattice after the breaking of these bonds, the first stage in the transformation of talc to clinoenstatite is reversible; a metasilicate is formed, possibly of the anthophyllite type. (OH)$_2$Mg$_3$Si$_4$O$_{12}$, having the structure of orthogonal amphibole with $\gamma$ = 1.599 and $z$ = 1.584 and, by a second transient stage, anhydrous metasilicate appears of the monoclinic type of

amphibole, $Mg_7Si_8O_{22}$ with $\gamma = 1.618$ and $\alpha = 1.605$. Further recrystallization results in the formation of clinoenstatite. The stages of the transformation are as follows:

$$\text{talc} \xrightarrow{600°C.} \begin{array}{c}\beta \text{ metasilicate}\\ \text{(orthogonal}\\ \text{hydrous}\\ \text{amphibole.)}\end{array} \xrightarrow{1,000°C.} \begin{array}{c}\text{metasilicate}\\ \text{(monoclinic}\\ \text{anhydrous}\\ \text{amphibole.)}\end{array} \xrightarrow{1,200° C.} \text{clinoenstatite.}$$

(8 figs., 5 tables.)

**Properties of talc during heating.** A. I. Avgustinik and V. S. Vigdergauz (*Ogneupory*, 13 [5] 218-27 (1948) The talc used in these experiments analyzed SiO₂ 60.91, Al₂O₃ 0.71, Fe₂O₃ 1.39, CaO 1.88, MgO 29.30, alkali 0.85, and ignition loss 5.45%. Dehydration of talc was found to proceed in three periods; 120° to 350°, 350° to 600°, and 600° to 1050°. Of the total nonhygroscopic water in the talc, 5.1% is liberated in the third period; this water is present in the form of hydroxyls in (OH)₂Mg₃Si₄O₁₀. The remaining 0.4% of the water is in the form of molecules of H₂O; these molecules are supposedly distributed partly between the basal faces of the "packets" and partly within the "packets" and are liberated successively during the first two periods of dehydration ("packets" are formed by two sheets of the tetrahedrons [SiO₄]⁴⁻). The talc does not decompose, during heating, into free oxides, but at 600°, simultaneously with the start of the main period of dehydration, there commences a regrouping of the ions within the talc lattice causing a gradual and partial splitting off of the silica, which becomes very soluble. The other portion of the silica remains bound to the MgO in the form of metasilicate. The optimum of this reaction occurs at 750° to 850°. Because the temperature of completion of the dehydration of the talc is considerably above the temperature of the optimum solubility of the SiO₂ and MgO, the bonds between the Mg ions and the tetrahedrons (SiO₄)⁴⁻ are weaker and are ruptured before the bonds between the Mg ions and the hydroxyls in the talc lattice. After the rupture of these bonds, a part of the water of constitution continues to remain in the lattice. It is then assumed that the first changing phase from talc into clinoenstatite is metasilicate, possibly of the anthophyllite type, (OH)₂Mg₇Si₈O₂₂, which has the structure of the orthogonal amphibole with nₒ = 1.599 and nₚ = 1.584, and that the second changing anhydrous phase is metasilicate of the type of monoclinic amphibole, Mg₇Si₈O₂₂, with nₒ = 1.618 and nₚ = 1.600, which further recrystallizes into clinoenstatite. The total transformation is as follows:

talc → β-metasilicate → α-metasilicate → clinoenstatite
600° (orthogonal 1000° (monoclinic 1200°
amphibole amphibole
hydrous) anhydrous)

H.Z.N.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

18

PROCESSES AND PROPERTIES INDEX

**Properties of talc during heating.** A. I. Avgustinik and V. S. Vigdergaus. *Ogneupory* 13, 218–27 (1948).—The talc used in these expts. analyzed $SiO_2$ 60.91, $Al_2O_3$ 0.71, $Fe_2O_3$ 1.39, CaO 1.88, MgO 29.30, alkali 0.85, and ignition loss 5.45%. Three dehydration stages were observed: 120–200°, 350–600°, and 600–1050°. During the third stage 5.1% of the total nonhygroscopic water in the talc is liberated; this water is present as hydroxyls in $(OH)_4 Mg_6 Si_8 O_{20}$. The remaining 0.4% of the water is liberated during the first-two stages of dehydration; this water is distributed between the basal faces of the packets and within the packets (packets are formed by two sheets of the tetrahedrons $(SiO_4)^{----}$). The talc does not decomp. into free oxides during heating but at 600° there starts a regrouping of the ions within the talc lattice which causes part of the silica to split off and become very vol. The optimum temp. interval for this reaction is 750–850°. The other part of the silica remains bound to the MgO in the form of metasilicate. The bonds between the Mg ions and the tetrahedrons of $(SiO_4)^{----}$ are ruptured before the bonds between the Mg ions and the hydroxyls in the talc lattice. After the rupture of these bonds, a portion of the water of constitution remains in the lattice. The transformations are as follows: talc $\xrightarrow{600°}$ β-metasilicate $\xrightarrow{1000°}$ α-metasilicate $\xrightarrow{1300°}$ clinoenstatite.

B. Z. Karnich

A12-1L4  METALLURGICAL LITERATURE CLASSIFICATION

British Abs

Properties of talc during heating, A. I. Avgustunik and V. S. Vietmann (Ogneupory, 1946, 11, 218; Brit. ceram. Abstr., 1946, 43A). Dehydration of talc occurs in three stages: 120—300°, 300—600°, and 600—1000°. Of the total amount (5.5%) of non-hygroscopic $H_2O$ in talc, 5.1% present as a hydroxyl with the composition $(OH)_6Mg_6Si_4O_{20}$ is evolved in the third stage. The remaining 0.4% is present as free $H_2O$ and probably is distributed partly within the sheet structure; it is evolved successively in the first two stages of dehydration. On heating, talc does not decompose into free oxides; simultaneously with the principal stage of dehydration, regrouping of ions of the internal framework begins slowly, part of the $SiO_2$ becoming separated and highly soluble. Another part remains combined with MgO as a metasilicate; this reaction is pronounced at 700—800°. A temp. much higher than that at which dehydration is complete is required to obtain max. solubility of $SiO_2$ and MgO; bonds between Mg ions and $SiO_4$ tetrahedra are weak and pre-existing bonds between Mg and OH ions in the talc lattice have been broken. Since part of the chemically-combined $H_2O$ still remains in the lattice after rupture of these bonds, the first stage in the transformation of talc into clinoenstatite is reversible: a metasilicate possibly of the phyllite type, $(OH)_2KMg_3Si_4O_{12}$ having the structure of orthogonal amphibole with $\gamma=1.600$ and $\alpha=1.564$ is found, followed by anhyd. metasilicate of the monoclinic type of amphibole, $Mg_3Si_4O_{12}$, with $\gamma=1.615$ and $\alpha=1.605$. Further recrystallisation results in the formation of clinoenstatite. The stages of the transformation are: talc $\xrightarrow{460°}$ β-metasilicate (orthogonal hydrous amphibole) $\xrightarrow{820°}$ metasilicate (monoclinic anhyd. amphibole) $\xrightarrow{1100°}$ clinoenstatite.

R. B. Clarke.

Determination of resistance to frost of wheat

AVGUSTINIK, A. I., VIGDERGAUZ, V. S.

Effect of the composition and amount of glass phase on the sinter-
ing and frost-resisting properties of ceramic building materials.
Trudy LTI no.57:77-87 '59.                    (MIRA 13:8)
                    (Ceramic materials)

VIGDERGAUZ, V. S.

Factors responsible for the decline of the frost-resistance proper-
ties of bricks made of clays from the Neva Region. Trudy LTI
no.57:88-96 '59.                                (MIRA 13:8)
                          (Bricks)

AVGUSTINIK, A.I.; VIGDERGAUZ, V.S.; ZHURAVLEV, G.I.

Electrophoretic precipitation of ceramic masses from suspensions
and calculation of the yield of precipitate. Zhur.prikl.khim.
35 no.10:2175-2180 O '62.                                (MIRA 15:12)
                     (Electrophoresis)  (Ceramics)

S/080/62/035/010/011/012
D204/D307

AUTHORS:          Avgustinik, A.I., Vigdergauz, V.S. and Zhuravlev,G.I.

TITLE:            The effect of electrolyte additions on the electro-
                  phoretic deposition of ceramic masses from suspen-
                  sions

PERIODICAL:       Zhurnal prikladnoy khimii, v. 35, no. 10, 1962,
                  2338-2341

TEXT:             The present work is a continuation of an earlier
study (ZhPKh, 35, 10, 2175 (1962)), devoted to the electrophoretic
deposition of ceramic coatings from suspensions. The importance of
the electrokinetic potential of the particles on the process of de-
position is underlined. It is concluded that this quantity is in
turn controlled by the formation of ionic double layers, by selec-
tive adsorption of similarly charged ions on the solid phase, i.e.
by the addition of electrolytes. The effects were studied of
$Th(NO_3)_4 \cdot 8H_2O$, HCl, $HNO_3$, $H_2SO_4$ and $Al(NO_3)_3 \cdot 9H_2O$, on suspensions
of MgO, $Al_2O_3$ - $SiO_2$ - CaO glass, NbC, and magnesium mica-phlogopite,

Card 1/2

The effect of electrolyte ...
        S/080/62/035/010/011/012
        D204/D307

the suspensions consisting of 2g of the solid particles in 30 $cm^3$ of 96% EtOH. It was found that in general the yields of the deposits (0 to $4 \times 10^{-3}$ $g/cm^2$) increased sharply to a maximum and gradually fell away as increasing amounts of electrolytes were added ($0 - 160 \times 10^{-5}$ moles). All experiments were carried out with an applied voltage of 12 v and a deposition time of 5 sec. No deposition was achieved with $H_2SO_4$, or in the absence of electrolytes. The yield maxima correspond to the complete formation of ionic double layers (maximum electrokinetic potentials), which then contract, owing to the effect of oppositely charged ions, when further electrolyte is added, (lowering of the electrokinetic potential). Suitable electrolytes are those in which one ion (e.g. $Th^{4+}$, $Al^{3+}$, $H^+$) exhibits specific adsorption, and the other possesses a low charge and is not too large ($Cl^-$, $NO_3^-$). There are 5 figures.

SUBMITTED:     April 13, 1962 .

Card 2/2

S/080/62/035/010/005/012
D204/D307

AUTHORS: Avgustinik, ...I., Vigdergauz, V.S. and Zhuravlev,G.I.

TITLE: Electrophoretic deposition of ceramics from their suspensions and the calculation of the yields of the deposits

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 10, 1962, 2175-2180

TEXT: The mechanisms of the formation of electrical double layers are summarized, for the case of a finely dispersed solid phase suspended in a liquid, focusing the interest on the mechanism in which ions are adsorbed on the solid particles, since this is of the greatest importance for the purpose of electrophoretic deposition. The effects of electrolyte additions are discussed. The present authors studied the deposition of refractory coatings on metals, to determine whether the electrophoretic method is effective, in a glass vessel containing as electrodes a Ni cylinder 19 mm in diameter and 70 mm long, and a coaxially placed 0.5 mm Cu wire, 60 - 70 mm

Card 1/3

Electrophoretic deposition ...

long.    The deposition took place on the Cu wire, the yields being determined by weighing.  The suspensions were prepared from 5 - 6 $\mu$ and smaller particles ultrasonically dispersed in 96% EtOH, and 1% HCl was used as the electrolyte.  The yields were found to increase almost linearly with the time of deposition (at a voltage of 11 v) and with applied voltage (for 4 sec periods of deposition), the times of deposition being controlled by a relay.  The yields (weights) of the deposit are shown to be given by                    (8)

$$\gamma_l = \frac{u \xi \epsilon C t l}{3 \ln \frac{r_1}{r_2} \eta} \quad ,$$

where  $\xi$  is the electrokinetic potential,  $\epsilon$  the dielectric constant of the medium, C the particle concentration, t the time of deposition, $r_1$ and $r_2$ the radii of the inner and outer electrodes of length $l$, and $\eta$ is the viscosity of the medium.  [Abstracter's note: u is not defined but probably a misprint for U, the applied voltage]. The experimental yields were generally higher than those calculated by the formula, for the following conditions: (1) U = 11 v,

Card 2/3

Electrophoretic deposition ...        S/080/62/035/010/005/012
                                      D204/D307

t varying from ~ 5 to 100 seconds, and (2) t = 4 sec, U varying from
~ 2 - 14 v. The discrepancies (~ 15%) are discussed. The process
is considered an effective one for the deposition of high quality
ceramic coatings. There are 3 figures.

SUBMITTED:        April 3, 1962

Card 3/3

AVGUSTINIK, A.I.; VIGDERGAUZ, V.S.; ZHURAVLEV, G.I.; KHAMOVA, V.I.

Simultaneous precipitation of several components for obtaining ceramic coatings by electrophoresis. Zhur. prikl. khim. 36 no.8:1646-1650 Ag '63.                                    (MIRA 16:11)

AVGUSTINIK, A.I.; VIGDERGAUZ, V.S.; ZHURAVLEV, G.I.

    Effect of the dispersity of the solid phase on its electrophoretic
    precipitation from suspensions. Zhur. prikl. khim. 36 no.8:1650-
    1654 Ag '63.                     (MIRA 16:11)

AVGUSTINIK, A.I.; VIGDERGAUZ, V.S.; ZHURAVLEV, G.I.

Electrophoresis as a method of depositing ceramic coatings.
Zhur. prikl. khim. 36 no.11:2539-2540  N '63.

(MIRA 17:1)

L 06294-67    EWT(m)/EWP(e)/EWP(t)/ETI    LJP(c)    AT/WH/JD/WW/JG/GD

ACC NR: AT6027150    (A)                    SOURCE CODE: UR/0000/65/000/000/0220/0228

AUTHOR: Ordan'yan, S. S.; Avgustinik, A. I.; Vigdergauz, V. S.

ORG: none

TITLE: Phase diagram of ZrC-Mo

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti khimii silikatov i okislov (Studies in the field of chemistry of silicates and oxides). Moscow, Izd-vo Nauka, 1965, 220-228

TOPIC TAGS: zirconium carbide, molybdenum, alloy phase diagram

ABSTRACT: On the basis of x-ray diffraction, metallographic and chemical analyses and measurements of temperatures of the start of fusion in the Zr-C-Mo system, a phase diagram of the quasi-binary section ZrC-Mo was plotted (see Fig. 1). It was found that the solubility of Mo increases with rising temperature; it amounts to 1.2, 3.1 and 9.9 at. % at 2273, 2373 and 2520°K respectively. The solubility of ZrC in Mo is slight (0.2 at. % at 2273°K). The composition of the eutectic in the ZrC-Mo system is close to $Zr_{0.189}Mo_{0.811}C_{0.189}$ (80 wt. % Mo). On the basis of the literature and their own data, the authors suggest that the $Me^{IV}C-Me^{VI}$ (TiC-Mo, TiC-W, ZrC-Mo, ZrC-W) sections in the corresponding ternary systems are quasi-binary and that the phase diagrams of these sections are of eutectic type. The acceptor capacity criterion 1/Mn of group IV metals forming isostructural carbides and data on the eutectic temperatures

Card  1/2

L 06294-67

ACC NR:    AT6027150                                                         O

in the TiC-Mo(W), ZrC-Mo(W) and HfC-Mo systems were used to find the eutectic tempera-
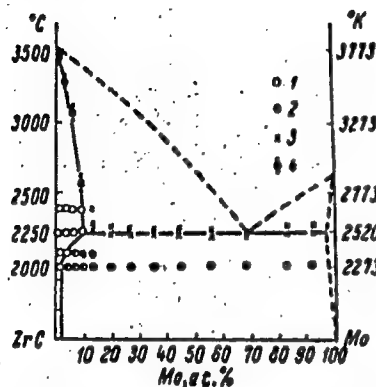tures in the HfC-W system (3200°K).  Orig. art. has: 5 figures and 1 table.



Fig. 1.   Phase diagram of the ZrC-Mo system.
          1 – single phase; 2 – two phases;
          3 – start of fusion of two-phase alloys;
          4 – start of fusion of single-phase
             alloys.

SUB CODE:  11/   SUBM DATE: 02Jul64/   ORIG REF:  011/   OTH REF:  013

Card   2/2

L 06290-67    EWT(m)/EWP(e)/EWP(v)    WH/WW/GD

ACC NR:    AT6027146                         SOURCE CODE:   UR/0000/65/000/000/0189/0192

AUTHOR:  Avgustinik, A. I.; Zhuravlev, G. I.; Vigdergauz, V. S.

ORG:  none

TITLE:  Interaction of certain glasses with copper at elevated temperatures

TOPIC TAGS:  silicate glass, borate glass, protective coating, copper, cuprous oxide

ABSTRACT:  The processes occurring during firing of vitreous coatings of the CaO-$Al_2O_3$-$SiO_2$-$B_2O_3$ system on copper were studied.  Coatings about 0.2 mm thick were deposited on plates 30 x 30 x 0.8 mm by electrophoresis and fired at 1020-1220°K for 1.5, 2.5, 3.5 and 4.5 min.  Cupric oxide was introduced into the coatings in the amount of 0-0.8%. Chemical analysis showed that a certain amount of copper migrates into the coatings from the copper substrate during firing.  The copper thus dissolved in the coating is present in the form of cuprous oxide aggregates which are colloidal in size. The presence of $Cu^{2+}$ ions in the coatings increases the oxidation rate of copper under the coatings during firing and the adhesion of the coatings to copper.  The increase in adhesive strength is apparently due to the formation of chemical bonds between

Card  1/2

L  DESTROYED

ACC NR:    AT6027146

these ions and the surface atoms of copper via oxygen.  Orig. art. has: 2 figures.

SUB CODE:  11/  SUBM DATE:  11Jun64/  ORIG REF:  002/  OTH REF:  007

Card  2/2

L 06285-67     EWT(m)/EWP(e)/EWP(v)/EWP(t)/ETI     IJP(c)     WH/WW/JD/GD
ACC NR:   AT6027140                          SOURCE CODE:   UR/0000/65/000/000/0110/011?

AUTHOR:  Avgustinik, A. I.; Zhuravlev, G. I.; Vigdergauz, V. S.

ORG:  none

TITLE:  Effect of copper oxides on the electric conductivity of certain glasses

SOURCE:  AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti khimii silikatov i okislov (Studies in the field of chemistry of silicates and oxides). Moscow, Izd-vo Nauka, 1965, 110-112

TOPIC TAGS:  copper compound, glass property, silicate glass, borate glass, electric conductivity

ABSTRACT:  The effect of copper oxide on the electric conductivity of glasses of the system $CaO-Al_2O_3-SiO_2-B_2O_3$ and on coatings of these glasses on copper plates was studied.  The glasses contained 0.5, 1.0, 1.5, 2.0, 3.0, 5.0 and 8.0% CuO.  The coatings were fired at 1220°K in a nitrogen atmosphere for 1.5, 2.5, 3.5 and 4.5 min.  In both cases, the electric conductivity was found to decrease exponentially up to 870°K. The activation energy of the initial glasses and coatings made from them is the same. The conductivity depends on the valence state of copper in the glass, not on the amount of copper.  Reflection spectra in the visible taken on the initial glasses and coatings showed that an increase in conductivity occurs in cases where colloidal aggregates of cuprous oxide (or metallic copper) are formed in them.  Orig. art. has:

Card  1/2

L 06285-57

ACC NR:     AT6027140

5 figures and 1 formula.

SUB CODE:  11/  SUBM DATE:  11Jun64/  OTH REF:  001

Card 2/2

AVGUSTINIK, A.I.; VIGDERGAUZ, V.S.; KALININA, D.G.; ORDANTAN, S.S.

Reaction of boron nitride with chromium. Zhur.prikl.khim.
38 no.3:665-667  Mr '65.                               (MIRA 18:11)

1. Submitted Febr. 28, 1963.

L 40005-66  EWP(k)/EWT(m)/T/EWP(e)/EWF(v)/EWP(t)/ETI  IJF(c)  WH/WW/JD

ACC NR: AP8008276                    SOURCE CODE:  UR/0080/66/039/002/0455/0457

AUTHOR: Avgustinik, A. I.; Zhuravlev, G. I.; Vigdergauz, V. S.                    39
                                                                                 B
ORG:  none

TITLE:  Effect of copper oxides on the adhesion of some glasses to copper

SOURCE:  Zhurnal prikladnoy khimii, v. 39, no. 2, 1966, 455-457

TOPIC TAGS:  adhesion, glass coating, cuprous oxide , WIRE, COPPER

ABSTRACT:  The strength of adhesion of glass coatings to copper wire was investigated.
The authors used glass consisting of $CaO-Al_2O_3-SiO_2-B_2O_3$ to which 0.5, 1.0, 1.5, 2.0,
3.0, 5.0 and 8% copper oxide was added and calcinated at 1200°C for 10, 20, 30 and 50
sec.  At a certain radius of the bend on the exterior part of glass coating, cracks
appeared in the form of a half ring, the planes of which were perpendicular to the
axis of the wire. If edges of crack zones are uniform and plumb to the surface of the
wire, this indicates that the destruction resulted from scaling; if the crack zone is
funnel shaped, this means that the destruction is due to the elastic stresses result-
ing from coating.  It was noticed that at a certain copper oxide content in glass, the
cohesive force reaches a maximum, then drops. Both brief as well as extended calcina-
tion decreased the cohesive force of coating. An equation is given for determining
cohesive force.  Orig. art. has:  3 figures, 3 formulas.
SUB CODE:  07,11/     SUBM DATE:  11Jun64/     ORIG REF:  003
                                                         UDC:  666.113
Card 1/1

L 08404-67  EWT(m)/EWP(e)/EWP(t)/ETI  IJP(c)
ACC NR:  AT6027154              ( A )         SOURCE CODE:  UR/0000/65/000/000/0257/0264

AUTHOR: Avgustinik, A. I.; Vigdergauz, V. S.; Gandel'sman, I. L.; Gorfunkel', L. V.;
Gropyanov, V. M.; Drozdetskaya, G. V.

ORG: none

TITLE:  Use of a cermet made of tungsten and aluminum oxide in the preparation of
cathodic heaters of electron tubes

SOURCE:  AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti
khimii silikatov i okislov (Studies in the field of chemistry of silicates and oxides).
Moscow, Izd-vo Nauka, 1965, 257-264

TOPIC TAGS:  high temperature cermet material, tungsten, aluminum oxide

ABSTRACT:  The aims of the study included (1) the selection of  W-Al$_2$O$_3$ cermet com-
positions suitable for the preparation of cathodic heaters, (2) a study of their phys-
ical properties (resistivity as a function of temperature, emissivity, strength, po-
rosity, etc.) as functions of the composition and processing.  The influence of the
regularity of distribution of the metal (tungsten) and oxide ($\alpha$-Al$_2$O$_3$) particles and
degree of dispersion of the starting materials on the properties of the sintered cer-
mets was determined.  The sintering was found to worsen with rising tungsten content;
the shrinkage and relative density decrease, and the porosity increases.  The mechani-
cal and elastic properties are determined by the porosity.  The optimum combination of

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L 08404-67
ACC NR: AT6027154

properties corresponds to a cermet composition containing 50-75% W and 50-30% $Al_2O_3$, and this composition is recommended for applications in industry after final improvements in the process of its preparation are made. Orig. art. has: 5 figures, 5 tables and 1 formula.

SUB CODE: 11/ SUBM DATE: 08Feb65/ ORIG REF: 005/ OTH REF: 002

Card 2/2  LS

L-05947-67   EWP(e)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/JG/GD/AT/JAJ/WH

ACC NR:   AT6027153          (A)          SOURCE CODE:   UR/0000/65/000/000/0250/0256

AUTHOR:   Avgustinik, A. I.; Gropyanov, V. M.; Drozdotskaya, G. V.; Vigdorgauz, V. S.

ORG:   none

TITLE:   Kinetics of formation and decomposition of solid solutions in refractory carbide systems

SOURCE:   AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti khimii silikatov i okislov (Studies in the field of chemistry of silicates and oxides). Moscow, Izd-vo Nauka, 1965, 250-256

TOPIC TAGS:   solid solution, decomposition, zirconium carbide, niobium compound, zirconium compound

ABSTRACT:   The formation of solid solutions in $ZrC-NbC$ and $TiC-NbC$ systems was studied as a function of temperature and duration of the synthesis process.  The products were analyzed by x-ray, metallographic and chemical methods.  In both systems, the matrix of the solid solution is $NbC$, whose lattice can increase in volume without breaking its chemical bonds.  As the holding time increases, a gradual decomposition of the solid solutions takes place.  Concentration-time curves for solid solutions at various synthesis temperatures showed that the formation of solid solutions is faster and their decomposition slower the higher has been the synthesis temperature.  The data obtained permit one to calculate the time required for the maximum solubility of $TiC$

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L 08447-67

ACC NR:    AT6027153

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and ZrC in NbC to be reached.  The observed decomposition of the solid solutions in the ZrC-NbC systems leads to the conclusion that a two-phase region exists in their phase diagrams at below-solidus temperatures.  Orig. art. has: 5 figures and 3 tables.

SUB CODE: 07/  SUBM DATE: 04Jul64/  ORIG REF: 013/  OTH REF: 001

L 06553-67    EWT(m)/EWP(t)/ETI    IJP(c)    WW/JD/JG
ACC NR: AP6008266
(A)
                                    SOURCE CODE:    UR/0080/66/039/002/0312/0317

AUTHOR: Ordan'yan, S. S.; Avgustinik, A. I.; Vigdergauz, V. Sh.

ORG: none

TITLE: The composition of alloys of the Zr-C-Nb system

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 2, 1966, 312-317

TOPIC TAGS: fusible alloy, alloy composition, phase composition

ABSTRACT: Compositions of the fused alloys of the Zr-C-Nb system were determined permitting the construction of a triangular composition diagram at 2273°K. Because most phases have nonstoichiometric amounts of the elements, the precise intersections of the phases remain obscure. A ZrC-Nb composition-temperature diagram is hypothesized indicating the solubility of Nb in ZrC from 2000-3773°K. On the basis of the experiments, it is concluded that a ZrC-Nb alloy may be used as a heat-resistant construction material. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 07/    SUBM DATE: 17Mar65/    ORIG REF: 005/    OTH REF: 007

                                    UDC:   546.3-19'831'26'882

Card 1/1

PELEYEV, Aleksandr Ivanovich; ROBER, David Aronovich; BRAZHNIKOV,
Aleksandr Mikhaylovich; VIGDORCHIK, D.Ya., retsenzent;
IZATULOV, R.A., retsenzent; TSIPERSON, A.L., red.

[Gas-using equipment of meat industry enterprises] Gazo-
ispol'zuiushchee oborudovanie predpriiatii miasnoi pro-
myshlennosti. Moskva, Pishchevaia promyshlennost', 1965.
155 p.                                        (MIRA 18:10)

VIGDORCHIK, D.Ya.; MAYEVSKIY, M.A.

Standardization of the design of gas burners. Gaz. prom. 10 no.8:26-
27 '65.                                                    (MIRA 18:9)

MAYZEL'S, Petr Borisovich; VIGLARCHIK, Duriy Yakovlevich.

[Gas burners; a manual] Gazogorelnye ustroistva;
spravochnoe posobie. Moskva, Stroiizdat, 1964. 282 p.
(MIRA 18:1)

VIGDORCHIK, D.Ya.; LAUBIS, G.D.

Planning the establishment of a standard design for welded steel cylinders for liquefied gases at $r_u \leq 1570 \cdot 10^3 \ n/m^2$.   Gaz. prom. 9 no.1:32-35  '64.

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VIGDORCHIK, D.Ya.

      Consultation. Gaz. prom. 8 no.6:44  '63.    (MIRA 17:8)

      1. Sotrudnik instituta Mosgazproyekt.

VIGDORCHIK, D. Ya., inzh.

Safety shut-off devices for gas installations. Bezop.truda v
prom. 5 no.7:19-21 Jl '61.                                      (MIRA 14:6)
                              (Gas governors)

RYABTSEV, N.I.; VIODORCHIK, D.Ya.

Safety valves for liquefied petroleum gas tanks. Gaz. prom.
no.8:36-38  Ag '58.                                    (MIRA 11:8)
    (Liquefied petroleum gas--Containers)
    (Valves)

VIGDORCHIK, D.Ya.; MAYEVSKIY, M.A.

Regulating stations. Gaz.prom. 6 no.2:23-28 '61.    (MIRA 14:4)

(Gas distribution)

VIGDORCHIK,D.Ya.; MAYEVSKIY,M.A.; SIDYAKINA,V.A., otv.za vyp.;MANVELOVA,
Ye.S., tekhn.red.

[Gas-burner systems in the bakery and confectionery industries]
Gazogorelochnye ustroistva v khlebopekarnoi i konditerskoi pro-
myshlennosti. Moskva, 1962.  29 p.              (MIRA 16:3)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy in-
formatsii pishchevoy promyshlennosti.
        (Bakers and bakeries--Equipment and supplies)
            (Confectionery--Equipment and supplies)

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Universal automatic projection device. Gas. 1954. ? 5:.. ?
25-29 '64.